

PROCEEDINGS OF LEARNED SOCIETIES.

LINNÆAN SOCIETY.

June 6, 1848.—E. Forster, Esq., V.P., in the Chair.

Read a "Notice of some *Peloria* varieties of *Viola canina*, L." By Edward Forbes, Esq., F.R.S., F.L.S., Professor of Botany in King's College, London.

These monstrosities were collected by Prof. Forbes in the Isle of Portland in the month of April. The plants in which they occurred were infested by the parasitic fungus figured in Sowerby's 'English Fungi' under the name of *Granularia Violæ*, and afforded not only many distortions of the foliaceous organs evidently due to the presence of the fungus, but also various monstrosities of the flower, of which the author gives a particular description illustrated by drawings.

These were found chiefly in the small variety of *Viola canina*, figured in the 'Supplement to English Botany' as *Viola flavicornis*. One of these plants had two two-spurred flowers exactly similar and deviating from the ordinary structure in the following particulars:—There were four sepals, all enlarged and diseased, the superior being smaller than the others, the two lateral equal but abnormally large, and the anterior largest and not quite regular. The petals were also four in number, the two uppermost being regular and the two lowermost spurred. Each of the former had the little tufts of hairs seen on the lateral petals in the normal flower, and were similarly pale at the base and lined with purple, while the two spurred petals were smooth and lined. Of the four stamens the three uppermost were normal, the fourth much enlarged; there were no antherine appendages, but at the bottom of each petal-spur there was a strong ridge not usually present and as if representing these appendages. From these appearances the author infers that in these instances the two superior petals were abortive, the tufts of hairs on the two remaining superior petals showing that they correspond with the two lateral petals of the ordinary flower; and that the two spurred petals were developed in the place of the ordinary single anterior petal. He regards the enlarged anterior stamen as consisting of two, each making an unsuccessful effort to develop an appendage; and the enlarged anterior sepal also as made up of the union of the two ordinary lower sepals.

In the former case the floral envelopes were regulated by the number 4: Prof. Forbes proceeds to describe a still more remarkable case of *Peloria*, in which they were regulated by the number 3. The three sepals are of normal and equal dimensions and the three petals all spurred, and nearly but not quite equal, the odd one, which is inferior, having a larger spur than either of the other two. There is no tuft of hairs on any of the petals, but they are all lined. The stamina are five, all furnished with appendages, the two lowermost of which, fully developed, penetrate the spur of the anterior petal, while the spur of the left upper petal receives the fully-developed

appendage of one of the stamina, and that of the right also one fully-developed appendage, the appendage of the fifth stamen (small and only partially developed) bending back after proceeding only a little way. A little below the flower, between it and the true bractæa, which present their usual appearance, there is a whorl of five bract-like sepals, between two of which, and directly beneath the largest-spurred petal of the monstrous flower, is a single petal partially developed and exhibiting an abortive spur. "In this case," the author proceeds, "we have the outer whorl of floral envelopes developed, and an effort made towards the development of the second in the aborted basal petal; then the axis elongating and terminating in a flower in which two of the sepals are aborted and four of the petals, viz. the two laterals and two superior ones, for the absence of tufts of hairs prevents our regarding two of the three as the former, and the presence of lineated bases shows that they are not the latter. They are repetitions of the basal petal, which in this instance is multiplied by three, as in the cases before described it was multiplied by two." In this plant no traces of the fungus were observed.

Prof. Forbes cites the instances of Peloria among Violets recorded by Leers and DeCandolle, and refers to the view adopted by the latter and by M. Moquin-Tandon, viz. that the Peloria is caused by the tendency of all the petals to assume a spurred condition in consequence of a general effort as it were on the part of an irregular flower to become regular. He states that DeCandolle's figures are not sufficient to enable him to judge if such was the case in the instances depicted by him, but maintains that the Peloria Violets which form the subject of the present communication "owe their monstrous regularity to a very different phænomenon, viz. *the effort of an irregular flower to become regular by the multiplication and symmetrization of its irregular parts.*"

Read also "Descriptions of some new or imperfectly known species of *Bolboceras*." By J. O. Westwood, Esq., F.L.S. &c.

In this paper Mr. Westwood proceeds, in continuation of his former communication (see p. 143), containing a Synopsis of the Australian species of *Bolboceras*, to give descriptions of others of the genus from various parts of the world, and especially from the East Indies. The descriptions were accompanied as before with illustrative drawings.

1. *BOLBOCERAS CYCLOPS*, *Fabr.* (Ent. Syst. i. p. 15; Oliv. Ent. i. 3. t. 15. f. 140); ferrugineus; clypeo anticè carinâ transversâ tuberculisque duobus acutis instructo, vertice lineâ tenui parùm elevatâ inter oculos, pronoto utrinque excavatione profundâ subrotundâ anticè cornu acuto alteroque minori versus medium armato: spatio inter cornua intermedia plano punctato anticè lineâ semicirculari parùm elevatâ cincto canali vix distincto longitudinali ante scutellum terminato, elytris punctato-striatis striis tenuibus, tibiis anticis 8-dentatis. ♂—Long. corp. lin. 9.

Variat mas magnitudine dentium capitis et pronoti necnon profunditate excavationum hujus lateralium.

Hab. in Javâ, Assam, et Indiâ centrali. Mus. Hopc (olim Lee) et nostr. (*Hearsey*).

2. *BOLBOCERAS GRANDIS*, *Hope MSS.*; rufo-castaneus, capite dentibusque tibiarum anticarum nigricantibus, clypeo carinâ tenui semicirculari, vertice carinâ transversâ inter oculorum partem anticam, pronoto convexo carinâ semicirculari tuberculisque duobus versus marginem anticam lineâque tenui longitudinali impressâ mediâ in parte posticâ.—Long. corp. lin. 9.

Hab. in Indiâ orientali? In Mus. D. Hope.

3. *BOLEOCERAS FURCICOLLIS*, *De Laporte* (An. Art. Coleopt. vol. ii. p. 104. no. 3); castaneo-rufus, sub lente granulosus, clypeo maris quadrato plano anticè bisinuato angulis lateralibus anticis in cornua duo porrectis, pronoto posticè elevato disco in medio cornubus duobus erectis distantibus recurvis alterisque duobus intùs concavis versus angulos posticos canali lævi mediano versus marginem posticam, elytris punctato-striatis, tibiis anticis extùs 6-dentatis.—Long. corp. lin. 10.

B. Lecontei, *Dej. Catal. Coleopt.*

Hab. in Americâ boreali (teste De Laporte et Mus. Hope et Gory), an recte?

4. *BOLBOCERAS FERRUGINEUS*, *De Laporte* (Hist. Nat. An. Art. Col. vol. ii. p. 104. no. 4); castaneo-fulvus sub lente granulosus, capite anticè carinâ sinuatâ anticâ tuberculoque subbifido tertio inter oculos, pronoto ante medium spatii duobus parùm elevatis lævibus lineâ tenui impressâ punctatâ (ferè ad marginem posticum extensâ) divisis utrinque etiam versus angulos posticos impressione obliquâ suprâ carinâ lævi marginatâ, elytris punctato-striatis, tibiis anticis 6-dentatis.—Long. corp. lin. 9½.

Hab. in Indiâ orientali? In Mus. Gory, nunc Hope.

5. *BOLBOCERAS CARENICOLLIS*, *De Laporte* (Hist. Nat. An. Art. Coleopt. vol. ii. p. 104. no. 2); *B. ferrugineo* affinis sed magis castaneus, sub lente granulosus, capite carinâ tenui marginali curvatâ verticeque tuberculis duobus parvis conicis inter oculos carinâ connexis, pronoto obscuro in medio carinâ transversâ abbreviatâ instructo maculâque nigrâ utrinque versus angulos posticos, elytris striatis striis punctis minutis, tibiis anticis 5-dentatis.—Long. corp. lin. 10.

Hab. in Indiâ orientali. In Mus. Gory (nunc Hope).

6. *BOLBOCERAS CALANUS*, *Hope MSS.*; fulvus vel rufo-castaneus, clypeo posticè bicornuto, prothorace cornubus 4 versus marginem anticam duobus intermediis contiguis et a reliquis cavitare rotundatâ utrinque separatis.—Long. corp. lin. 7-8½.

Hab. in Indiâ orientali, Bombay. In Mus. Melly et Hope.

7. *BOLBOCERAS LÆVICOLLIS*, *Westw.*; fulvo-castaneus, vertice ante medium bidentato, prothorace glabro tuberculis 4 versus marginem anticam æquidistantibus duobus intermediis carinâ tenui curvâ conjunctis.—Long. corp. lin. 9½.

Hab. in Indiâ orientali. In Mus. Hope.

8. *BOLBOCERAS LATERALIS*, *Westw.*; castaneus, capite pedibusque nigricantibus, capite inermi, prothorace ferè lævi, excavationibus duabus lateralibus rotundatis singulâ suprâ tuberculo acuto armatâ.—Long. corp. lin. 6.

Hab. in Indiâ orientali, Gogo. In Mus. Hope.

9. *BOLBOCERAS NIGRICANS*, *Westw.*; piceo-niger nitidus, clypeo tuberculo conico anticè armato, verticis marginibus lateralibus utrinque bituberculatis discoque carinâ elevatâ inter oculos instructo, prothorace glabro

nitido anticè retuso 4-dentato dentibus subæquidistantibus.—Long. corp. lin. 6.

10. BOLBOCERAS POLITUS, *Westw.*; nitidus fulvus, capite et pronoto magis castaneis, capite anticè tricorni cornu antico majori erecto, prothorace excavatione maximâ dorsali posticè trisinuatâ, elytris punctato-striatis, tibiis anticis 5-dentatis dentibus anticis magnis acutis.—Long. corp. lin. 6½.

Hab. in Senegaliâ. In Mus. Hope (olim Gory) nomine *Athyreus porcatus*, Lap., *senegalensis*, Dej., haud rectè inscriptus.

11. BOLBOCERAS CORYPHEUS, *Fabr.* (Ent. Syst. i. p. 9; Oliv. Ent. i. 3. tab. 16. f. 150); rufo-fulvus, capite suprâ plano, clypeo anticè bicorni cornubus recurvis apice nigris posticèque mucrone elevato brevissimo nigro, pronoto anticè retuso cornubus duobus brevibus approximatis anticè porrectis apice nigris in medio disco positis posticè gibbere obtuso in excavatione parùm profundâ instructo, elytris punctato-striatis, tibiis anticis 5-dentatis.—Long. corp. lin. 8.

Hab. ad Caput Bonæ Spei (teste Fabricio). In Mus. Hope (olim Lee).

12. BOLBOCERAS SCABRICOLLIS, *Chevrol. MSS.*; ferrugineus, capite et pronoto magis piceis punctis minutis plus minusve confluentibus scabriusculis, capite in medio carinâ brevi transversâ sub 3-lobatâ, pronoto impressionibus tribus longitudinalibus ferè oblitteratis.—Long. corp. lin. 8.

Hab. apud Caput Bonæ Spei. In Mus. D. Chevrolat.

13. BOLBOCERAS CAPITATUS, *Westw.*; obscure castaneus subnitidus, capite et pronoto minutissimè punctatis hoc utrinque excavatione maximâ cornubus duobus compositis magnis separatâ, tibiis anticis obtusè 6-dentatis.—Long. corp. lin. 10½.

Hab. in Assam, Indiæ orientalis. Mus. Melly et Saunders.

14. BOLBOCERAS INÆQUALIS, *Westw.*; rufo-castaneus, antennarum clavâ fulvâ, capite suprâ concavo carinâ transversâ in parte posticâ, pronoto anticè valdè retuso suprâ quadridentato fossulâque mediâ profundâ, elytris striato-punctatis, tibiis anticis 6-dentatis.—Long. corp. lin. 6½.

Hab. in Indiâ orientali. *Col. J. B. Hearsey*; in Mus. nostr.

15. BOLBOCERAS BICARINATUS, *Westw.*; castaneo-fulvus, capite inter oculos et ad basin clypei carinis duabus transversis nigris, pronoto tuberculis duobus parvis parùm elevatis ante medium, tibiis anticis 7-dentatis.—Long. corp. lin. 8½.

Hab. in Indiâ orientali. Mus. Melly.

16. BOLBOCERAS DORSALIS, *Westw.*; rufo-castaneus, capitis vertice et pronoto medio nigris punctatis, capite in medio verticis tuberculis tribus conjunctis instructo, pronoto punctatissimo ferè regulari, tibiis anticis 8-dentatis.—Long. corp. lin. 7½.

Hab. in Indiâ orientali. Mus. W. W. Saunders.

17. BOLBOCERAS NIGRICEPS, *Westw.*; obscure castaneus, punctatus, capite nigricanti carinâ arcuatâ ad basin clypei tuberculisque tribus verticalibus, pronoto lineâ longitudinali impressâ utrinque cum tuberculo parùm elevato, tibiis anticis 7-dentatis.—Long. corp. lin. 7½.

Affinis præcedenti et forsitan fœmina speciei diversæ.

18. BOLBOCERAS TRANSVERSALIS, *Westw.*; fulvo-castaneus, capite lato carinâ rectâ transversâ elevatâ inter oculos, pronoto lineâ longitudinali anticè dilatâ impresso.—Long. corp. lin. 4½.

Hab. in Indiâ orientali. Mus. Melly.

19. *BOLBOCERAS INDICUS*, *Hope MSS.*; fulvo-rufus, capite anticè tuberculis duobus conicis erectis armato, pronoto lævissimo anticè excavatione semicirculari parùm profundâ notato, calcari pedum anticorum elongato obtuso, tibiis anticis 9-dentatis.—Long. corp. lin. 4.

Hab. in Indiâ orientali centrali. In Mus. Saunders et Hope.

20. *BOLBOCERAS LINEATUS*, *Melly MSS.*; fulvus nitidus, capite nigro punctato inter oculos tuberculo apice subbifido armato, pronoto simpliciter maculâ discoidali nigrâ, elytris convexis suturâ striisque longitudinalibus elevatis nigris, tibiis anticis 8-dentatis.—Long. corp. lin. 3½.

Hab. in insulâ Ceylon. In Mus. Melly.

Subgenus *EUCANTHUS*, *Westw.*

Corpus minùs depressum quàm in reliquis; pronoto anticè haud retuso.

Tibiæ anticæ dentibus duobus apicalibus magnis aliisque minutis externis versus basin armato. *Elytra* punctato-striata; singulo striis 5 tantùm inter humeros et suturam, punctis profundis.

21. *BOLBOCERAS (EUCANTHUS) MELIBÆUS*, *Fabricius* (*Ent. Syst.* i. p. 20); rufo- vel piceo-niger, clypeo carinâ transversâ plus minùsve elevatâ (quasi e tuberculis duobus conjunctis formatâ) verticeque cornu brevissimo truncato (parùm emarginato) instructis, pronoto subdepresso inæquali, canali punctatâ longitudinali in medio (marginem anticam haud attingente) impressionibusque lateralibus curvatis punctatis tuberculoque utrinque instructis, elytris glaberrimis punctato-striatis.—Long. corp. lin. 4–5½.

Bolboceras concinnus, *Dejean, Cat. Coleopt.*

Hab. in Americâ boreali. In Mus. D. Hope.

Mr. Westwood concludes with some observations on *Bolb. Lazarus*, Fabr., which he regards as closely allied to, if not identical with, *Bolb. Melibæus* of the same author.

June 20.—E. Forster, Esq., V.P., in the Chair.

Read a Postscript to Mr. Newport's paper on *Pteronarcys regalis*.

The author referred to the paper already read to show that the genus *Pteronarcys* ought to be arranged after *Perla*, and before *Capnia* and *Nemoura*, which it most nearly approaches in the structure of its alimentary canal; while *Perla* has affinities with the *Orthoptera* through the *Blattidæ*. The *Perla arenosa* of Pictet was regarded as making the nearest approach to the latter family, and this species was shown to be the *Perla abnormis* of Newman. The larva and pupa of this species were described from specimens taken by Mr. Barnston in Canada, and now in the British Museum, and the habits of the species were detailed as observed by that gentleman.

The generic characters of *Pteronarcys* were proposed to be revised as follows:—

PTERONARCYS, *Newm.*

CHAR. GEN. *Segmenta thoracica* etiam in Imagine branchiis externis prædita. *Alæ* magnæ, reticulatæ. *Palpi maxillares* labialibus multò longiores, 5-articulati; articulis 2 basalibus brevibus, reliquis elongatis, externè dilatatis. *Mandibulæ* parvæ, obtusæ. *Segmentum abdominale* octavum in mari processu longo ventrali munitum, in sæminâ paulò evolutum vel bifidum.

Mr. Newport added the following new species :—

PTERONARCYS CALIFORNICUS ♂; capite thoraceque saturatè brunneis, fronte clypeo labroque rufis, oculis ocellisque nigris, segmentis thoracicis lineâ longitudinali interruptâ flavâ, abdomine aurantiaco lateribus brunneis, stylis caudalibus basi flavis, antennis pedibusque totis atris, alis obscuris nigro-nervosis sed absque maculâ stigmali.

Hab. in Californiâ (*D. Hartweg*).

The following apparently new species of Canadian *Perlida* were described, with remarks on the habits of each as observed by Mr. Barnston.

1. *PERLA CITRONELLA* (*Barnston MSS.*); saturatè flava, antennarum articulis 33–35, oculis ocellisque brunneis, alis hyalinis pallidè luteis margine costali flavis, abdominis dorso brunneo.—Long. lin. 3–3½.

Hab. in Canadâ, ad Albany River, latit. 54°.

2. *PERLA MINIMA* (*Barnston MSS.*); nigra nitida, antennarum articulis circa 26 submoniliformibus pilosis, fronte paululùm excavato, palpis subclavatis, thorace angusto subquadrato, stylis caudalibus 13-articulatis, alis obscuris nigro-nervosis in mari brevibus obtusis abdomen semicooperientibus in fœminâ amplis corpore longioribus.—Long. lin. 1¾–2.

Hab. in Canadâ, ad Albany River.

3. *CAPNIA VERNALIS*, *Newp.*; nigra nitida pilosa, thorace posticè rotundato, antennarum articulis 30–33 pubescentibus, alis obscuris pilosiusculis nervis magnis nigris, stylis caudalibus subulatis 21–23-articulatis.—Long. lin. 2½.

Perla vernalis, *Barnston MSS.*

Hab. in Canadâ, ad Albany River.

The fourth species, distinguished from most other *Nemouræ* by the short anterior wings of the male, the author proposed to join with *Nemoura trifasciata*, Pictet, which is similarly formed, in a subgenus for which he proposed the name *Brachyptera*.

4. *NEMOURA (Brachyptera) GLACIALIS* (*Barnston MSS.*). *Mas* saturatè brunneus ferè niger, thoracis margine anteriore recto, alis anterioribus triangularibus rudimentalibus segmentum abdominale primum tantùm attingentibus; posterioribus albidis longissimis acutis emarcidis decussatis, antennis elongatis pubescentibus 53–56-articulatis, pedibus longis compressis cursoriis; paris postremi longissimis, abdominis segmento terminali lato plano pubescente.

Fœmina multò major, in reliquis tamen similis, capite paululùm excavato, alis amplis obscurè brunneis nigro-nervosis.—Long. unc. ½.

Hab. in Canadâ, ad Albany River.

MISCELLANEOUS.

How to prevent the Attacks of the Bed-bug, Cimex lectularius.

By JOHN BLACKWALL, F.L.S.

So numerous and important are the advantages which result from an exact and comprehensive knowledge of entomology, that few persons of liberal education, in the present day, are disposed to